

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-12. (Canceled)

13. (New) A device for shared management of a resource between several users, comprising:

a memory for storing virtual deadlines E_i and share parameters D_i associated with respective user-identifiers u_i , each of the user-identifiers u_i representing one of the users, the memory further storing values of increments $P(c)$;

a plurality of classes, each class being associated with a respective one of the values of increments $P(c)$ stored in the memory;

a plurality of first-in-first-out (FIFO) queues for storing the user-identifiers u_i of the users, each FIFO being assigned to one of the plurality of classes and being associated with one of the values of increments $P(c)$ of one of the plurality of classes; and

a processing unit coupled to the memory and the FIFO queues, wherein the processing unit is configured to:

select a user-identifier u_s of one of the FIFO queues, the selected user-identifier u_s being at the head of the one of the FIFO queues and having the least advanced virtual deadline E_s among the stored virtual deadlines;

allocate to the user represented by the selected user-identifier u_s a service slice Q_s of the resource, the service slice Q_s being derived from the values of the share parameters D_s associated with the selected user-identifier u_s and of the increment $P(c)$ of the FIFO in which the selected-identifier u_s is stored; and

increase the virtual deadline E_s associated with the selected user-identifier u_s according to a value of increment dE_s .

14. (New) The device according to claim 13, wherein the service slice Q_s allocated to the user represented by the selected user-identifier u_s results from a formula $Q_s = P(c) \times D_s$.

15. (New) The device according to one of the claims 13 and 14, wherein the processing unit is further configured to:

store in the memory a virtual point in time V managed by the device;

increase the virtual point in time V by an increment value pV for advancing the virtual point in time V ; and

allow allocation of the service slice Q_s to the user represented by the selected user-identifier u_s as long as the virtual deadline E_s associated to the selected user-identifier u_s is less advanced than the virtual point in time V .

16. (New) The device according to claim 15, wherein the virtual point in time V is increased by the increment value pV for each allocation to the user represented by the selected user-identifier u_s of the service slice Q_s of the resource, the increment value pV being a quotient of the increment $P(c)$ of the FIFO queue in which the selected-identifier u_s is stored and a sum D of the share parameters D_i .

17. (New) The device according to claim 13, wherein the memory comprises:
a FIFO queues area storing, for each of the FIFO queues, one of the values of the increments $P(c)$ and the user-identifier u_s of the user at the head of the FIFO queue; and
a users area storing, for each user, the user-identifiers u_i , the share parameters D_i , and an end of queue item $nd(u)$.

18. (New) The device according to claim 17, wherein FIFO queues are cyclic queues defining circular lists, and wherein each of the FIFO queues associates a single virtual

deadline $F(c)$ to the user-identifiers u_i stored in the FIFO queue, said single virtual deadline $F(c)$ being stored in the FIFO queues area.

19. (New) The device according to claim 18, wherein the processing unit is further configured to:

allocate to the user represented by the selected user-identifier u_s the service slice Q_s of the resource, the selected user-identifier u_s being in the list having the least advanced virtual deadline $F(c)$; and

increase the virtual deadline $F(c)$ of said list after allocating a service slice Q_i to a user at the end of said list.

20. (New) The device according to claim 13, wherein users requesting a service slice of the resource are discriminated from users not requesting a service slice of the resource.

21. (New) The device according to claim 20, wherein user-identifiers of newly requesting users and user-identifiers of formerly requesting users are stored in distinct FIFO queues.

22. (New) The device according to claim 21, wherein a virtual deadline $F(u)$ is assigned to the user-identifiers u_i of a newly requesting user, the virtual deadline $F(u)$ being dependent on the virtual point in time V managed by the device.

23. (New) The device according to one of the claims 20 to 22, further configured to eliminate non-requesting users appearing at the head of one of the FIFO queues.

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24. (New) The device according to 23, wherein a non-requesting user is eliminated when said non-requesting user is allowed to use a resource and possesses the least advanced virtual deadline $F(u)$ among the stored virtual deadlines.